

Claims

✓ *yes* *but B1*

1. ~~An isolated~~ A polypeptide comprising the amino acid sequence provided in SEQ ID NO:2 or a variant thereof that differs only in conservative substitutions and/or modifications at no more than 10% of the amino acid residues.

2. A constitutively active variant of a polypeptide according to claim 1.

3. A polypeptide comprising the amino acid sequence provided in SEQ ID NO:2 modified at no more than 10% of the amino acid residues, such that said polypeptide is rendered constitutively inactive.

✓ *yes* *yes*

4. An isolated DNA molecule encoding a polypeptide according to ^{*claim 1*} ~~any of~~ claims 1-3.

5. An isolated DNA molecule comprising the nucleotide sequence provided in SEQ ID NO:1.

6. A recombinant expression vector comprising a DNA molecule according to claim 4.

7. A host cell transformed or transfected with an expression vector according to claim 6.

yes

8. A method for phosphorylating p38 comprising contacting p38 with a polypeptide according to ^{*claim 1*} ~~either of claims 1 or 2~~, thereby phosphorylating p38.

yes

9. A method for activating a member of the p38 cascade in an organism, comprising administering to an organism a polypeptide according to ^{*claim 1*} ~~either of claims 1 or 2~~, thereby activating a member of the p38 cascade.

10. The method of claim 9 wherein the member of the p38 cascade is p38.

11. A method for screening for an agent that inhibits signal transduction via the p38 cascade, comprising:

yes *yes*

(a) contacting a candidate agent with a polypeptide according to ^{*claim 1*} ~~either of claims 1 or 2~~; and

(b) subsequently measuring the ability of said polypeptide to activate p38, and thereby evaluating the ability of the compound to inhibit signal transduction via the p38 cascade.

12. A method for screening for an agent that stimulates signal transduction via the p38 cascade, comprising:

(a) contacting a candidate agent with a polypeptide according to ~~either of claims 1 or 2~~; and *claim 1*

(b) subsequently measuring the ability of said polypeptide to activate p38, and thereby evaluating the ability of the compound to stimulate signal transduction via the p38 cascade.

13. A monoclonal antibody that binds to a polypeptide according to ~~either of claims 1 or 2~~ *claim 1*

14. A monoclonal antibody according to claim 13, wherein said antibody inhibits the phosphorylation of p38 by said polypeptide.

15. A method for treating a patient afflicted with a disease associated with the p38 cascade, comprising administering to a patient a compound that inhibits the phosphorylation of p38 by MEK6.

16. The method of claim 15 wherein said compound is a monoclonal antibody.

17. The method of claim 15 wherein said compound comprises a nucleotide sequence.

18. A method for detecting MEK6 kinase activity in a sample, comprising evaluating the ability of the sample to phosphorylate p38, thereby detecting MEK6 kinase activity in the sample.

19. A kit for detecting MEK6 kinase activity in a sample, comprising p38 in combination with MEK6 and a suitable buffer.

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✓ 20. A method for identifying a composition which affects MEK6 kinase activity, comprising:

(a) incubating the composition and MEK6 kinase or polynucleotide encoding the kinase, wherein the step of incubation is carried out under conditions and for a time sufficient to allow the components to interact; and

(b) measuring the effect of the composition on MEK6 kinase or polynucleotide encoding the kinase.

✓ 21. A method of treating an immunologically related disorder associated with MEK6 kinase activity, comprising administering to a subject having the disorder a therapeutically effective amount of a compound which modulates MEK6 kinase activity.

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